



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,200	02/07/2001	Samir Attallah	21046-P005	5660

7590 09/20/2004  
Lawrence N. Ginsberg  
907 Citrus Place  
Newport Beach, CA 92660

EXAMINER

CHANG, EDITH M

ART UNIT PAPER NUMBER

2637

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/779,200	<b>Applicant(s)</b> ATTALLAH ET AL.	
	<b>Examiner</b> Edith M Chang	<b>Art Unit</b> 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-24 is/are allowed.
- 6) ☒ Claim(s) 16,33 and 37-39 is/are rejected.
- 7) ☒ Claim(s) 1-15,25-32 and 34-36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The reference "Understanding Digital Subscriber Line Technology" by T. Starr, J.M. Cioffi and P.J. Silverman listed on page 2 lines 1-3 is not listed in the information disclosure statement (IDS), hence the reference has not been considered.

### ***Specification***

2. The abstract of the disclosure is objected to because there are more than one inventor, hence change the "I claim" on page 13 line 12 to "We claim". Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

3. Claims 1-16, 25-39 are objected to because of the following informalities:

Claim 1, line 18: "the plurality of transformed amplitude values" is suggested changing

Art Unit: 2637

to “the plurality of transformed amplitude values of the corresponding transformed MCM signal”.

Claims 5 & 10, line 2: “comprise” is suggested changing to “comprises”.

Claim 25, line 4: “transformed amplitude values” is suggested changing to “a plurality of transformed amplitude values”.

Claim 34, line 2: “comprising” is suggested changing to “comprising steps of”; and lines 14-15: “the communication system” is suggested changing to “the MCM communication system”.

Claim 37, line 12: “the shaping” is suggested changing to “shaping”.

Claims 2-4, 6-9, 11-16, 26-33, 35-36 and 38-39 directly or indirectly depend on the independent objected claims 1, 25, 34 and 37.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 16 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16, lines 1-2: “the inverse probability distribution transformer” lacks antecedent basis.

Claim 33, line 3: “the plurality of linear transformers” lacks antecedent basis; and line 5: “the plurality of amplitude values” lacks antecedent basis.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 37-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Hardiman et al. (US 5937377).

Regarding **claim 37**, In Figure 2, Hardiman et al. discloses an equalizer. The Equalizer in Figure 2 comprising: the element 208 FFT which is the Fourier transform module (FFT is the fast Fourier transform indicated in column 2 line 49 & column 8 lines 55-56 and is the Fourier transform), receives the signal  $S(n)$  and provides the transformed signal  $S(w)$ ; the elements 201, 203 and 202 as the compensator to compensate the  $S(w)$  with parameters from GNR, PNR,  $G_{AGC}$  and  $G_{AEQ}$  to provide the compensated signal  $S_3$  to the element 209 IFFT representing the inverse fast Fourier transform module (IFFT is the inverse Fourier transform), wherein the parameters are the variable transmission parameters include the noise indicator, total channel energy and current channel energy associated to the channel/transmission gains (column 8 line 66-column 9 line 15). Hence, Hardiman et al. discloses the equalizer comprising a FFT module, a compensator and an IFFT module as recited in the claims.

Regarding **claim 38**, In Figure 2, column 2 line 49 and column 8 lines 55-56, Hardiman et al. discloses the element 208 comprising the fast Fourier transform module and the element 209 comprising the inverse fast Fourier transform module.

Regarding **claim 39**, In Figure 2 and column 8 line 66-column 9 line 15, Hardiman et al. discloses that elements 201, 202 and 203 having a plurality of variable transmission parameters,  $P_{NR}$ , shape the plurality of transmission characteristics of the received signal indicated in column 9 lines 4-9. The variable transmission parameters comprise variable transmission gains wherein the parameters  $P_{NR}$  to AGC to control transmission gains.

***Allowable Subject Matter***

8. Claims 17-24 are allowed.
9. Claims 16 and 33 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
10. Claims 1-15, 25-32 and 34-36 are objected to informality, but would be allowable if rewritten to overcome the objections, set forth in this Office action.
11. The following is a statement of reasons for the indication of allowable subject matter:

Claims are allowable over prior art of record because the prior art of record does not teach or suggest, alone or in a combination, among other things, at least a peak to average power radio reducer and its methods as a whole, the combination of elements and features as claimed, which includes a probability distribution transformer with a substantially uniform probability density function transform and a probability distribution inverter with a substantially Gaussian probability density function transform as arranged recited in the claims.

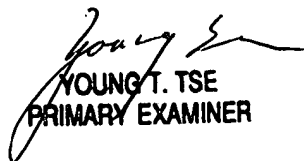
***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang  
September 13, 2004

  
YOUNG T. TSE  
PRIMARY EXAMINER